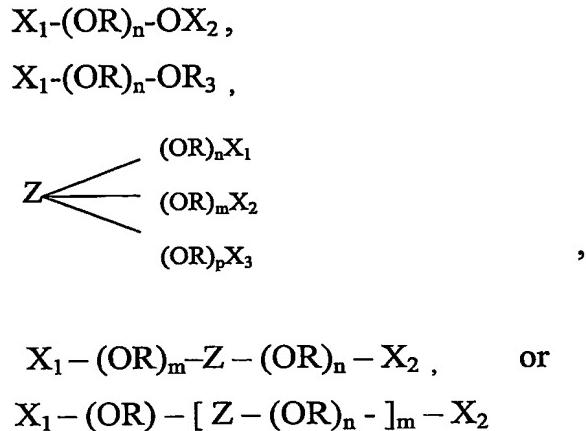


**WHAT IS CLAIMED IS:**

1. A pressure sensitive adhesive comprised of at least one radiation-cured oligomer and/or monomer, said radiation-cured oligomer and/or monomer comprising an insoluble polymer which comprises a plurality of polyether segments comprising  $-C_aH_{2a}O-$  repeat units, wherein  $a$  is an integer of 1 to 4, said segments comprising from about 20 to about 85 percent by weight of said polymer.
2. A pressure sensitive adhesive of claim 1, wherein said polyether segments are selected from the group consisting of  $-CH_2O-$ ,  $-CH_2CH_2O-$ ,  $-CH_2(CH_3)CHO-$ ,  $-CH_2CH_2CH_2CH_2O-$ ,  $-CH_2(C_2H_5)CHO-$ , and mixtures thereof.
3. A pressure sensitive adhesive of claim 1, wherein said polyether segments comprise from 35 to 85 percent by weight of said polymer.
4. A pressure sensitive adhesive of claim 1, comprising from about 15% to about 65% by weight of an epoxy containing compound.
5. A pressure sensitive adhesive of claim 1 comprising up to about 50% by weight of an acrylate-containing compound.
6. A pressure sensitive adhesive of claim 1 comprising from about 15% to about 45% by weight of tackifier.
7. A pressure sensitive adhesive of claim 6 comprising from about 15% to about 35% by weight of tackifier.

8. A pressure sensitive adhesive of claim 1 comprising from about 15% to about 45% by weight of a plasticizer.
9. A pressure sensitive adhesive of claim 8 comprising from about 15% to about 35% by weight of a plasticizer.
10. A pressure sensitive adhesive of claim 1 comprising from about 0.1% to about 3% by weight of an initiator.
11. A pressure sensitive adhesive of claim 4 wherein said epoxy containing compound is selected from the group consisting of aliphatic epoxides, cycloaliphatic epoxides, and epoxidized vinyl compounds.
12. A pressure sensitive adhesive of claim 6 wherein said tackifier is selected from the group consisting of terpene phenolics, alpha methyl styrene derived resins, rosin derived tackifiers, monomeric alcohols, oligomeric alcohols, and oligomeric glycols.
13. A pressure sensitive adhesive of claim 8 wherein said plasticizer is selected from the group consisting of terpene phenolics, rosin-derived plasticizers, and polyglycols.
14. A pressure sensitive adhesive of claim 10 wherein said initiator comprises an onium salt cationic photoinitiator.
15. A pressure sensitive adhesive of claim 10 wherein said initiator comprises a free radical photoinitiator.

16. A pressure sensitive adhesive of claim 1 wherein said oligomer or monomer is represented by one or more of the formulae



wherein  $X_1$ ,  $X_2$ ,  $X_3$  are terminal groups at least one of which permits a curing reaction and wherein  $X_1$ ,  $X_2$ ,  $X_3$  may be the same or different from each other;  $n$ ,  $m$  and  $p$  may range from 2 to 1000,  $R$  is a straight or branched alkylene group having the formula  $(CR_1R_2)_q$  where  $q$  is an integer from 1 to 4, and  $R_1$  and  $R_2$  may independently be hydrogen and  $C_{1-3}$  alkyl.

17. A pressure sensitive adhesive tape comprised of the adhesive of claim 1 on a backing material.

18. A pressure sensitive adhesive tape of claim 17 where a second side of the backing material is coated with a pressure sensitive adhesive.

19. A removable pressure sensitive adhesive tape comprised of the adhesive composition of claim 1 used in the assembly of touch screens to liquid crystal display screens.

20. A pressure sensitive adhesive tape comprised of the composition of

claim 1 used in the assembly and mounting of removable graphics on a rigid or flexible substrate.

21. A removable pressure sensitive adhesive tape comprised of the composition of claim 1 used in the assembly and mounting of rigid or flexible display screens.

22. A removable pressure sensitive adhesive tape comprised of the composition of claim 1 used as a protective covering for various components during further processing procedures.

23. A pressure sensitive adhesive of claim 1 used in the bonding of transparent labels to glass or plastic surfaces.

24. A pressure sensitive adhesive of claim 1 used in the sealing of biological test plates.

25. A method of forming a pressure sensitive adhesive tape, comprising providing at least one radiation-curable oligomer and/or monomer on a substrate, said oligomer or monomer comprising a plurality of polyether segments comprising  $-C_aH_{2a}O-$  repeat units, wherein  $a$  is an integer of 1 to 4, and radiation-curing said oligomer and/or monomer in situ on said substrate, wherein said segments comprise from about 20 to about 85 percent by weight of said resulting polymer, and exposing said radiation-curable oligomer and/or monomer to radiation to form said radiation-cured pressure sensitive adhesive tape.

26. A method of claim 25, wherein said polyether segments are selected from the group consisting of  $-CH_2O-$ ,  $-CH_2CH_2O-$ ,  $-CH_2(CH_3)CHO-$ ,  $-CH_2CH_2CH_2CH_2O-$ ,  $-CH_2(C_2H_5)CHO-$ , and mixtures thereof.

27. A method of claim 25, wherein said polyether segments comprise from 35 to 85 percent by weight of said polymer.
28. A method of claim 25, comprising from about 15% to about 65% by weight of an epoxy containing compound.
29. A method of claim 25, comprising up to about 50% by weight of an acrylate containing compound.
30. A method of claim 25, comprising from about 15% to about 45% by weight of tackifier.
31. A method of claim 30, comprising from about 15% to about 35% by weight of tackifier.
32. A method of claim 25, comprising from about 15% to about 45% by weight of a plasticizer.
33. A method of claim 32, comprising from about 15% to about 35% by weight of a plasticizer.
34. A method of claim 25, comprising from about 0.1% to about 3% by weight of an initiator.
35. A method of claim 28, wherein said epoxy-containing compound is selected from the group consisting of aliphatic epoxides, cycloaliphatic epoxides, and epoxidized vinyl compounds.

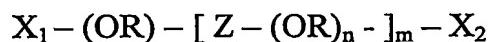
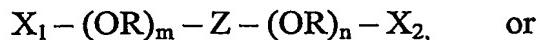
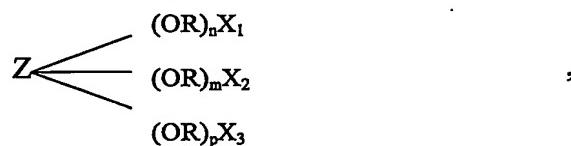
36. A method of claim 30, wherein said tackifying compound is selected from the group consisting of terpene phenolics, alpha methyl styrene derived resins, rosin derived tackifiers, monomeric alcohols, oligomeric alcohols, and oligomeric glycols.

37. A method of claim 32, wherein said plasticizer is selected from the group consisting of terpene phenolics, rosin-derived plasticizers, and polyglycols.

38. A method of claim 34, wherein said initiator comprises an onium salt cationic photoinitiator.

39. A method of claim 34, wherein said initiator comprises a free radical photoinitiator.

40. A method of claim 25, wherein said radiation-curable oligomer or monomer is represented by one or more of the formulae



wherein  $X_1$ ,  $X_2$ ,  $X_3$  are terminal groups at least one of which permits a curing reaction and wherein  $X_1$ ,  $X_2$ ,  $X_3$  may be the same or different from each other;

n, m and p may range from 2 to 1000, R is a straight or branched alkylene group having the formula  $(CR_1R_2)_q$  where q is an integer from 1 to 4, and R<sub>1</sub> and R<sub>2</sub> may independently be hydrogen and C<sub>1-3</sub> alkyl.

41. A light guide comprised of the adhesive of claim 1.